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MEMORANDUM FOR: Deputy Director (Support)

SUBJECT: DD/R Requirements for Automatic Data
                     Processing Equipment

NRO DECLASSIFICATION/RELEASE INSTRUCTIONS ON FILE

1.   The Office of Special Activities, in support of the National Reconnaissance Program, is rapidly approaching operational target dates in several projects which will necessitate, because of their complexity, automatic data processing in the preparation of mission plans through the collation of targets, weather factors, vehicle performance and intelligence data. Certain on-going projects will also benefit substantially from the availability of computer programming. In many of these projects timely decision making can only be achieved through the actual employment of computer programming.

2.   Following extensive briefings on our operations, both present and imminent, ADPS personnel have concluded that only a computer with a very large memory core which can simultaneously accept and rapidly process a tremendous volume of data will satisfactorily meet our requirements. We have been advised by ADPS that a computer, the IBM 7090, is presently being considered to meet other CIA needs and is thoroughly capable of satisfying ours. Target date for the acquisition of the 7090 is not planned, however, until December 1963. We have received word that a 7090 Computer will be readied by May of this year and with a governmental priority we should be able to secure delivery.

3.   Concept of operations involving a computer requires useable products which will include but not be limited to the following:

Handle via [ ]
Control System

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a. An over-all mission plan for OXCART. This plan will include all information required for the AD/OSA and the Commander

25X1A at [   ] to plan and brief a directed mission. In the computer preparation of the flight plan the factors of vehicle performance, weather data, and intelligence data will be considered to provide optimum results for a mission. The combination of these items requires a computer with a very large memory core to simultaneously accept and rapidly process this voluminous data.

b. A complete flight plan for IDEALIST. Essentially the same type flight plan will be produced as for the OXCART program. The same general parameters of performance, weather, and intelligence will be considered. The IDEALIST flight plan will be more simple in content with no requirement for programming the Inertial Navigation System(INS).

c. Ephemeris plotting for Satellite Projects. Computer programs will be developed to accept the basic orbital elements and produce actual orbital track information to include "look-see" areas for CORONA, LANYARD, and other follow-on programs. Combining weather data and target information with the orbital track computations will require a memory core capacity well in excess of that in the presently installed IBM 1410 computer. Although recent programming efforts have proven the IBM is capable of computations for any one of the individual problems, i.e., track computation, "look-see" areas, or target data, it is not capable of performing computations of all these parameters at one time. A basic ephemeris program, utilizing the IBM 1410 has been completed, but sophistication of this program will be difficult, if not impossible, until adequate computer memory core becomes available.

4. Considering the diversification and magnitude of the programs outlined above an estimate of machine utilization of less than an average of twenty hours per week would be impractical. Although the actual running time for any one program may not exceed an hour, the program "debugging" time to achieve perfection in a machine program could easily amount to ten or twenty hours. Pursuing the concept of continuous sophistication of all machine programs will require many

hours of "debugging" each week. The twenty hours estimate is predicated on support of known operational requirements.

5. I would like to register my vote for earliest acquisition of a computer and call to your attention our operational requirements for such a machine. Although I am sure the Agency will be able to procure the priority necessary to obtain the computer, I will be happy to enlist whatever Department of Defense support may be required to earmark the 7090 for CIA.

6. I will be happy to discuss our requirements with you or assist in any way possible in obtaining the machine.

Signed Herbert Scoville, Jr.

HERBERT SCOVILLE, JR.
Deputy Director
(Research)

Signature recommended:

JACK C. LEDFORD
Colonel   USAF
Assistant Director
(Special Activities)

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